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Neural Metaphor and Dreams

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In the three decades since the discovery that ordinary thought is largely metaphorical, metaphor researchers have come to understand that, like all other concepts, conceptual metaphors are physical circuits in the brain. “Primary metaphors” are acquired by the hundreds in childhood, often prior to language, just by living in the everyday world, where different kinds of experiences often come together.

Every time a child is held affectionately by a parent, the child experiences affection and warmth together, and they activate different brain regions. Every time a child sees more water or milk poured into a glass and sees the level rise, distinct brain regions for quantity and verticality are activated. When two brain regions are activated over and over, their synapses strengthen, activation spreads over existing pathways, with synapses strengthening every time the two regions are activated together. Eventually, the shortest pathway is found, and a circuit is formed. That circuit *is* a metaphor physically in the brain. That is how primary metaphors like Affection Is Warmth and More Is Up are formed.

Hundreds of primary metaphors are learned in this way. Just as 98 percent of thought is unconscious, so the use of such metaphors usually goes unnoticed. The primary metaphors neurally bind with each other and other concepts to form many thousands of conceptual metaphors, all physically in the brain, all mapping inferences from source to target domains, and all fixed and ready to be unconsciously activated whether you are awake or dreaming.

Primary metaphors are embodied in three ways: they arise from bodily experiences, they are physically in the brain, and they give rise to physical behavior, as recent experiments on embodied cognition have shown. Subjects at Yale were given either warm or cold coffee and then asked to describe someone they imagined just meeting. Those who had the warm coffee tended to imagine meeting friendly, affectionate people. *Affection Is Warmth* was activated by the warm coffee. Subjects who were asked to say nasty lies about other people chose to either wash their hands or use cleansing wipes afterward. The *Morality Is Purity* metaphor was at work. And so on for dozens of experiments.

In dreams, concerns and experiences of the day tend to activate pre-existing metaphor circuitry to produce dreams of relevance to the concerns most active in one’s brain during the day. I studied dream journals of close friends.

A woman dreamt that she was walking on a dirt road that became narrower and narrower, became an uphill trail through dense brush. She climbed to the top of the hill where she saw an Anthropology professor of her acquaintance coming out of

Trader Joe's. "Don't bother," he said. The anthropologists have cleaned out the place."

She had, after years of motherhood, got a PhD in Anthropology, but could not get a regular job, only teaching a class here and there. She was about to give and go into another profession. The Trader Joe's is the place where the local academics buy party goods. The dream activated widespread conceptual metaphors: A Career is a Journey Upward (climbing the ladder of success); Difficulties Are Impediments to Motion (roadblocks, glass ceilings); Achieving as Purpose is Getting a Desired object, typically food (as in the fruits of one's labor). In the dream, her career path was long and difficult, it narrowed, the uphill climb was difficult. An academic job in Anthropology would have been the fruit of her labor, but the fruit was all taken.

A friend was distraught after splitting up with his lover. He dreamed that night that they had started driving north on a local freeway. As they reached the freeway bridge, a storm blew up and the bridge was blown into the bay.

The widespread metaphors here are Love Is a Journey — in which difficulties are impediment to motion — and Emotional States Are Weather States. The lovers start out on their journey, emotional storms arise, and the bridge blown out makes the journey of live impossible.

Much of child rearing is based on metaphors of morality that shape family life. The two most prominent are Morality is Obedience, giving rise to a strict father family, and Morality is Nurturance, giving rise to a nurturant parent family. The Obedience metaphor makes the strict father the moral authority in the family whose word is law and who has to physically punish all of children's wrongdoings. Therapists have reported to me that bad dreams and corresponding neuroses result, especially where there is a conflict between the metaphors for strictness versus nurturance.

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